

540,081

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/056398 A1

(51) International Patent Classification⁷: **A61K 51/04**,
G01N 33/94

Erminia [IT/TT]; Piazza 106 Briagata Garibaldi, 12,
I-20014 Nerviano (IT).

(21) International Application Number:
PCT/EP2003/014801

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
19 December 2003 (19.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02080413.4 20 December 2002 (20.12.2002) EP

(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): PHAR-
MACIA ITALIA S.P.A. [IT/TT]; Via R. Koch 1.2, I-20152
Milan (IT).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): GIRIBONE, Danilo
[IT/TT]; Via Giuseppe Carozzi, 5/4, I-20147 Milan (IT).
FORINO, Romualdo [IT/TT]; Via del Caravaggio, 14,
I-20100 Milano (IT). BARBUGIAN, Natale [IT/TT]; Via
Germana De Stael, 1, I-20100 Milano (IT). FONTANA,

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ISOTOPE LABELED CAMPTOTHECIN DERIVATIVES

(57) Abstract: The present invention provides isotope stable labeled camptothecin analogs including irinotecan and SN-38, a process
for their preparation and their use as internal standard in analytical methods.

WO 2004/056398 A1